TESTIMONY OF
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BEFORE THE
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Mr. Chairman and Members of the Subcommittee on Energy and Power:

Thank you for the opportunity to testify on the subject of the recent events in the California electricity market. The Federal Energy Regulatory Commission has been moving the electricity industry to a structure that relies on well-functioning wholesale markets to produce an economic and reliable supply of electricity for the nation. In supporting that policy, my expectation continues to be that markets will produce consumer benefits and lower prices compared to cost of service regulation.

Thus, I am very concerned about the behavior of California's electricity market this summer and its effects on consumers. I am concerned that this summer's events are causing a crisis of confidence in California wholesale electricity markets that threatens to erode the political consensus necessary to sustain a market-based approach to regulation, not just in California but across the country. The Commission must act forcefully and decisively to reassure market participants, policymakers and consumers that jurisdictional wholesale markets will produce consumer benefits and just and reasonable rates.

California's Experience This Summer

Based on the records of proceedings at the Commission this summer, I believe that there are sufficient indications that California wholesale markets are not producing prices that are just and reasonable. For example, California wholesale electricity costs for June 29 of this year were seven times what they were for the same date in 1999 ($340 million vs. $45 million) even though energy usage was only about 3% more. [1] During the month of June, 2000, the total cost of electricity (energy and ancillary services combined) charged to the California market was nearly half of California's total electricity cost for all of 1999. In two separate five-day periods in June, 2000 (when demand was at least 3,000 MW to 5,000 MW below the projected annual peak) California's total cost of electricity exceeded $1 billion, with one of those five day periods reaching $1.3 billion .[2] During June and July of 1999, prices in the Power Exchange rarely exceeded $150/MWh even during the highest load levels. But during the same period this year, prices have multiplied to three and four times the levels reached last year whenever load levels exceed 33,000 MW. [3] I would also note that the California Public Utilities Commission states that every analysis of the California markets since their opening has found

[1] See Attachment B to Notice of Intervention of the Public Utilities Commission of the State of California in Docket No. EL00-95.

[2] Motion to Intervene and Response of Southern California Edison Company in Docket No. EL00-95.

[3] Complaint of San Diego Gas & Electric Company in Docket No. EL00-95.

substantial exercises of market power. [4] I believe that there are serious flaws in the California wholesale markets.

Ensuring Well-functioning Electricity Markets

The events in California this summer provide an opportunity for the Commission and all policy makers to gain a better understanding of what elements are needed for well-functioning electricity markets and to act decisively to ensure that such elements are in place. Taking a laissez-faire approach, letting the markets police themselves, is not an acceptable answer in my view. We must ensure that the road to market-based solutions and customer benefits is well paved, and we must proceed with a real sense of urgency.

A few weeks ago, the Commission directed its staff to conduct a thorough investigation of bulk power markets. That investigation is now focused primarily on California, and I am confident that staff's report will shed much needed light on the problem. However, I believe that there are a number of shortcomings in the California market that have become fairly evident, and that these should be regarded as lessons that can be applied to all electricity markets.

First, policy makers must ensure that there are no impediments to expanding the supply of generation and transmission facilities. This is critical. Markets will not work if supply cannot enter easily in response to demand. There seems to be widespread

[4] Notice of Intervention of the Public Utilities Commission of the State of California in Docket No. EL00-95, at 8.

agreement that a shortage of generation as well as constraints in the transmission network are fundamental problems in California. I recognize that some of these shortages were the result of unforeseen events, exceptionally hot weather or sustained demand growth due to the economy's continued strong performance. Nonetheless, necessary facilities must be sited and built for competitive markets to produce benefits. State siting authorities must respect this fundamental truth, and ensure that reasonable and time limited siting rules are in place, balancing the need for new generation capacity with a responsible environmental policy. It is my hope that California authorities will accomplish this goal.

Streamlined, standardized interconnection procedures and agreements are also needed to facilitate generation entry. I have been pushing for such a policy at the Commission. Interconnection legerdemain is anticompetitive and anti-consumer. But not all interconnection authority resides at the federal level. The interconnection of many generators, including many applications of distributed generation, is at the state level. We still have a lot of work to do in streamlining and standardizing interconnection procedures and agreements.

Transmission capacity must be adequate to support competitive markets. There are two aspects to this piece of the puzzle. One is to provide adequate financial incentives to encourage grid expansion. The Commission recently demonstrated its willingness to allow higher rates of return on transmission facilities in a case involving Southern California Edison. And I believe that performance-based rates and other

financial incentives for members of Regional Transmission Organizations, or RTOs, will help to spur transmission investments.

The other part of the transmission issue is siting. This, too, is in the hands of the individual states. Just as with generation, California authorities must develop time limited processes for siting new transmission facilities. I would point out, however, that electricity markets are interstate in nature. Transmission lines provide the highway for interstate electricity commerce. California and other states depend on regional trade. I am not confident that the current state-by-state approach to siting interstate transmission facilities will get the job done. I believe that the siting of interstate facilities should be carried out by an interstate authority. I continue to strongly recommend federal siting authority with the power of eminent domain.

A second broad area that must be addressed is market design. California's experience this summer has demonstrated that market power can be exercised during extreme demand conditions with very dramatic price impacts. During high demand periods, it was impossible to meet all demand without relying on all or almost all of the available generation resources. The relatively high-cost generator operators -- those on the upper end of the supply curve -- know when these conditions are likely and can bid very high prices with a fair degree of confidence that they will be dispatched. Moreover, the market rule in California is that the generator that clears the market sets the price for the entire market. This means that all generators benefit from that exercise of market power and consumers suffer. Thus, market prices can be manipulated by one or very few

sellers. The Commission must examine whether the so-called single price auction for generation is appropriate in these circumstances. The Commission should also consider whether there may be a need to place some limits on wholesale price levels in these conditions until all the pieces of a well-functioning competitive market are in place. Generation entry is spurred by the price signal that results from a well-functioning market. But if a high market clearing price is pegged by market power, such an extreme price does not serve a legitimate market function.

A third factor contributing to high prices in California is underscheduling of both load and generation. Scheduling imprecision is to be expected to some degree, but my understanding is that deliberate underscheduling is done in the California PX day ahead markets by both load serving entities and generators in order to affect market prices. Substantial underscheduling then forces the ISO to go into the real time markets to make up the difference between what has been scheduled and what is needed to keep the system in balance. Under such conditions, the ISO is vulnerable to paying very high prices. Perhaps even more important, last minute resource imbalances pose reliability concerns. I understand that the California ISO is attempting to improve the incentives for market participants to schedule as accurately as possible. The Commission should examine such rules during our investigation.

A fourth critical issue is demand responsiveness to price. This is a standard means of moderating prices in well-functioning markets, but it is all but absent from California's and other electricity markets. When prices for other commodities get high, consumers

can usually respond by buying less, thereby acting as a brake on price run-ups. Without the ability of end use electricity consumers to respond to prices, there is virtually no limit on the price that suppliers can fetch in shortage conditions.

We must urgently seek ways to increase demand responsiveness. There are two aspects to this. One is showing an accurate price signal to the consumer before consumption decisions are made. The second is the ability of the consumer to react to the price signal. The first may be addressed by appropriate metering and communications, and that is the easiest part of the equation. However, residential customers cannot easily respond to price signals. I do not believe any of us want to sit at home watching the hourly price signal so we know whether we should postpone dinner or adjust the thermostat. The capability for residential and even commercial customers to adjust consumption lies in so called "smart houses" or "smart buildings" that allow computers to adjust the operation of certain equipment in response to market prices and "strike price" instructions.

Until such "smart" technology has penetrated a large part of the market, I think electricity providers should concentrate on arrangements that compensate large industrial and large commercial customers for reducing consumption. That will provide the biggest bang for the buck and may even capture enough of the demand curve to help discipline price run-ups. I understand that the California ISO is aggressively pursuing such demand side programs to be in place by next summer.

It has also been suggested that RTOs operate demand-side markets where demand aggregators bid negawatts. The Commission could consider this as part of our RTO policy. All options for improving demand responsiveness to prices should be considered. All reports and analyses I have seen have emphasized this lack of demand responsiveness as a critical problem. We must attempt to solve it.

A fifth area that needs attention is risk management. The California market design places entirely too much reliance on the spot market. Spot markets are almost by nature volatile. While the spot market is the appropriate venue to secure limited portions of needed supply, it should not be relied upon for most or all of the supply portfolio. Yet that is the case in California. The painful results are almost predictable.

My understanding is that there were state regulatory restrictions placed on the degree to which load serving utilities in California may forward contract. This policy should be changed. Regulators must ensure that everyone on the demand side of the market is given appropriate incentives and are well informed regarding hedging. Surely a balanced portfolio of long-term and short-term supply must be an ingredient of well-functioning markets.

It is clear that we should move forward by ensuring well-functioning markets. This is surely a long-term effort, at least in some respects, but market problems in California and in other regions are here and now and we must deal with them. What should we do in the meantime, before we have all the elements of efficient markets in place?

Some form of price caps or bid caps may be needed as temporary stopgap measures. The California ISO currently has adopted a $250/MWh purchase price cap. Such a cap on the market does serve to keep down the exceptionally high price spikes that dramatically increased bills in California earlier this summer. To that extent, it is valuable. But price or bid caps, especially market wide caps, are not the long-term answer. Such caps water down the price signals we need for bringing about new supply and for hedging. In addition, while the price spikes are avoided, existing market imperfections can still keep prices well above competitive levels yet remain below the $250 cap. We must explore more precisely targeted mitigation measures.

Going forward, California authorities and the FERC must form a partnership for ensuring well-functioning markets. Neither the FERC nor state policymakers, acting in isolation from each other, can solve all market flaws because our respective jurisdictions are sharply delineated under existing law. State policymakers cannot effectively define or police market power in interstate wholesale markets. They cannot require a wholesale market structure, based upon an efficiently operating interstate transmission grid, that will produce just and reasonable rates. These are federal responsibilities. By the same token, under existing law the FERC cannot site the generation and transmission facilities that are necessary to bring supply and demand into equilibrium, and it has no direct authority to require purchasers of power to hedge price volatility risk in forward or financial markets. These are state responsibilities. Both federal and state policymakers have a role in

pursuing policies that will facilitate an effective and price-dampening demand side response. We must work together to solve the problems at hand.

The Need for Federal Legislation

I strongly believe that there is a need for federal legislation to ensure that the nation reaps the benefits of well-functioning electricity markets. I would not advocate a legislative solution for all of the problems experienced in the California market this summer. Many market design flaws, hedging, and the lack of demand side responsiveness can be addressed under existing authorities. But I do believe that this summer's experience has demonstrated that electricity markets are inherently interstate in nature. Prices throughout the western United States rose and fell with events in California. In order to thrive, such markets must have an open, non-discriminatory, well managed, and efficiently priced interstate transmission network that links buyers and sellers of power. The existing patchwork of inconsistent and outdated jurisdictional rules for this essential interstate delivery system, coupled with splintered network management, create obstacles and uncertainties that undercut the market. If buyers and sellers lack confidence that electric power will be delivered reliably and on reasonable terms and conditions, they will not commit resources to those markets.

Legislation should facilitate the development of a reliable and efficiently organized grid platform upon which vibrant wholesale markets can be built. Jurisdictional uncertainties or anomalies should be eliminated, the development of Regional

Transmission Organizations should be ensured, and the authority to site interstate transmission facilities should reside with an interstate authority.

My recommendations for federal legislation fall into five broad areas.

First, Congress should place all interstate transmission under one set of open access rules. That means subjecting the transmission facilities of municipal electric agencies, rural cooperatives, the Tennessee Valley Authority, and the Power Marketing Administrations to the Commission's open access rules.

Moreover, the majority of transmission -- that is, the transmission that underlies bundled retail sales -- is arguably now subject to state control under existing law. This has a balkanizing effect on what is essentially an interstate delivery system. State rules may discriminate against interstate transactions. The solution is to subject all transmission, whether it underlies an unbundled wholesale, unbundled retail, or bundled retail transaction, to one set of fair and non-discriminatory interstate rules administered by the Commission. This will give market participants confidence in the integrity and fairness of the interstate delivery system, and will facilitate robust trade. All transmission should be subject to one set of rules, while local distribution wires are governed by state regulations.

Second, I continue to strongly believe that the development of well structured Regional Transmission Organizations is a necessary platform on which to build efficient electricity markets. Having said that, I realize RTOs are not a panacea. Indeed, California already has an ISO that operates its transmission grid. However, the causes of

the problems plaguing California are related to market design, an inability to site new facilities, and the restricted scope of the ISO. The problems were not due to transmission grid operation.

The widespread development of RTOs is needed to ensure open access to an efficiently organized transmission grid. Discrimination in access is still a problem, and the current utility-by-utility approach to grid management is inefficient. RTOs that meet the requirements of Order No. 2000 will help ensure access to large power markets, better transmission pricing, improved regional planning, improved congestion management, and consistent market rules within a trading region. We know for a fact that resources will trade into the market that is most favorable to them. Trade should be based on true economics, not the idiosyncracies of differing market rules.

Grid reliability is one of the unsung benefits of the RTO institution. Existing grid management is scattered among more than one hundred operators. Consolidating grid operations through RTOs (in the form of ISOs, transcos or hybrid entities) will eliminate seams and facilitate institutions that are more congruent with reliability management regions and evolving markets. A large RTO can manage congestion and plan for loop flow efficiently. An RTO can also facilitate regional consensus among market participants, transmission owners and state siting authorities about the need for new transmission siting and construction. A large RTO also provides the appropriate scope and forum for transmission pricing reform. As such, an RTO can, by adopting

performance-based rates, provide the incentives for needed new transmission facilities. These features of the RTO can provide a reliable platform for emerging markets.

The full benefits of RTOs to the marketplace will not be realized, however, if they do not form in a timely manner, if they are not truly independent of merchant interests, or if they are not shaped to capture market efficiencies and reliability benefits. While the Commission may have more authority regarding RTOs than it has exercised thus far, I nevertheless recommend that the Congress clarify existing law to authorize the Commission to require the formation of RTOs and to shape their configuration.

The current tax codes may be an obstacle to participation in RTOs. Public utility transmission owners cite unfavorable tax consequences of spinning off or selling their transmission facilities to RTOs, and public power entities cite difficulties staying within the bounds of private use restrictions on their transmission facilities if such entities join RTOs. Legislation has been introduced (H.R. 4971) that addresses these problems. For public utilities, this legislation would defer taxes on the sale, and eliminate taxes on the spin off, of transmission facilities to independent entities in Commission approved RTOs. The bill also would modify the private use restrictions to enable public power entities to provide open access service and participate in RTOs without losing their tax-exempt bonds. This legislation appears to be a reasonable compromise and could be important in attracting RTO participation by public utilities and public power entities. I commend this legislation to the Subcommittee.

Third, we need mandatory reliability standards. Vibrant markets must be based upon a reliable trading platform. Yet, under existing law there are no legally enforceable reliability standards. The North American Electric Reliability Council (NERC) does an excellent job preserving reliability, but compliance with its rules is voluntary. A voluntary system is likely to break down in a competitive electricity industry.

I strongly recommend federal legislation that would lead to the promulgation of mandatory reliability standards. A private standards organization (perhaps a restructured NERC) with an independent board of directors would promulgate mandatory reliability standards applicable to all market participants. These rules would be reviewed by the Commission to ensure that they are not unduly discriminatory. The mandatory rules would then be applied by RTOs, the entities that will be responsible for maintaining short-term reliability in the marketplace. Mandatory reliability rules are critical to evolving competitive markets, and I urge Congress to enact legislation to accomplish this objective.

Fourth, the FERC needs the authority to site new transmission facilities. The transmission grid is the critical superhighway for electricity commerce. But it is becoming congested due to the increased demands of a strong economy and to new uses for which it was not designed. Transmission expansion has not kept pace with these changes in the interstate electricity marketplace. Under current law, however, the Commission does not have the authority to get the job done alone. The Commission has no authority to site electric transmission facilities that are necessary for interstate

commerce. Existing law leaves siting to state authorities. This contrasts sharply with section 7 of the Natural Gas Act, which authorizes the Commission to site and grant eminent domain for the construction of interstate gas pipeline facilities. Exercising that authority, the Commission balances local concerns with the need for new pipeline capacity to support evolving markets. We have certificated thousands of miles of new pipeline capacity over the last few years.

I strongly recommend legislation that would transfer siting authority to the Commission. Such authority would make it more likely that transmission facilities necessary to reliably support emerging regional interstate markets would be sited and constructed.

Finally, I recommend legislation that would give the Commission the direct authority to mitigate market power in electricity markets. It should be clear by now that, despite our best efforts, market power still exists in the electricity industry. The FERC, with its broad interstate view, must have adequate authority to ensure that market power does not squelch the very competition we are attempting to facilitate. However, the Commission now has only indirect conditioning authority to remedy market power. This is clearly inadequate. Therefore, I recommend legislation that would give the Commission the direct authority to remedy market power in wholesale markets, and also to do so in retail markets if asked by a state commission that lacks adequate authority.

Conclusion

I stand ready to assist the Subcommittee in any way, and I thank the you for this opportunity to testify.